

REPORT BRIEF

Educational Outcomes for Children Participating in Athletes Committed to Educating Students (ACES)

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the educational outcomes of students who participated in the Athletes Committed to Educating Students (ACES) after-school tutoring and mentoring program in comparison to the educational outcomes of their peers. In particular, this study focused on changes over time in school attendance, school mobility, and academic proficiency as well as graduation and dropout rates.

BACKGROUND & PURPOSE

After-school programs represent an increasingly common context in which school-age children participate. Research indicates that after-school programs can have a positive impact on academic achievement. These positive outcomes are amplified when engagement in program activities is high, with benefits being most evident for disadvantaged children (Mahoney, Lord, & Carryl, 2005). Programs with the greatest likelihood of enhancing achievement tend to share several characteristics, including frequent and intensive involvement from staff and participants alike (Child Trends, 2010).

Athletes Committed to Educating Students (ACES) is an after-school tutoring and mentoring program that was founded in 1994. ACES seeks to close the achievement gap of at-risk students in grades four through eight in Minneapolis and Saint Paul Public Schools by incorporating evidence-based practices into programming. ACES addresses the fourth grade reading slump of low-income students that results in trouble with learning activities dependent on printed text (Chall & Jacobs, 2003). While some evaluation has been conducted, more intensive evaluation is required to better understand participants' educational outcomes. This study sought to understand the associated effect of ACES programming on school stability, proficiency, and graduation/dropout by answering the following questions:

- 1. Do ACES students' attendance and mobility rates show greater improvements over time than their peers?*
- 2. Do ACES students' reading and math proficiency show greater improvements over time than their peers? Are there differences in reading and math proficiency for students who participate in ACES at least two years as compared to students who do not continue?*
- 3. Do ACES students maintain district-level enrollment between 8th and 9th grade at higher levels than their peers?*
- 4. Do ACES students graduate on-time at a higher rate with fewer school dropouts than their peers?*



ATHLETES COMMITTED TO EDUCATING STUDENTS (ACES) IS AN AFTER-SCHOOL TUTORING AND MENTORING PROGRAM THAT WAS FOUNDED IN 1994. ACES SEEKS TO CLOSE THE ACHIEVEMENT GAP OF AT-RISK STUDENTS IN GRADES FOUR THROUGH EIGHT IN MINNEAPOLIS AND SAINT PAUL PUBLIC SCHOOLS BY INCORPORATING EVIDENCE-BASED PRACTICES INTO PROGRAMMING.

METHODS

In order to evaluate academic outcomes associated with ACES participation, two ACES cohorts were developed.

School stability and proficiency outcomes were assessed for 4th-7th graders who first enrolled in ACES 2010-2011. Four-year graduation and dropout rates were assessed for 6th-8th graders participating in ACES in 2006-2007 and 2007-2008. Educational outcomes were also assessed for two matched comparison groups.

Through Minn-LInK, ACES data were linked to Minnesota Departments of Education and Human Services data (97% match rate). Two cohorts were created. Cohort 1 included 4th-7th graders who first enrolled in ACES in academic year 2010-2011. Cohort 2 included 6th-8th graders participating in ACES during 2006-2007 and 7th-8th graders participating in 2007-2008. ACES participation was coded as infrequent (1-10 days), moderate (11-29 days), and frequent (30+ days). Using propensity score matching, comparison groups were created for students with frequent participation for each cohort. Students were matched on school, grade level, gender, race/ethnicity, Limited English Proficiency, free/reduced lunch eligibility, special education participation, child protection and out-of-home placement history, academic achievement, mobility, and attendance. (See Table 1 for student characteristics.) Outcomes included attendance rates, number of school moves, continued enrollment in Minneapolis and St. Paul public schools, MCA-II reading and math proficiency, and graduation and dropout rates. Graduation, dropout, and enrollment differences were analyzed using Chi-square tests. Mobility, attendance, and MCA-II proficiency were measured one year prior to ACES entry (2009-2010), year of entry (2010-2011), and the year after entry (2011-2012) using Generalized Estimating Equations.

Table 1. Demographic Characteristics

		Cohort 1				Cohort 2				
		ACES				ACES				
		Comparison	Frequent	Moderate	Infrequent	Comparison	Frequent	Moderate	Infrequent	
		n=110	n=110	n=79	n=34	n=73	n=75	n=87	n=44	
		%	%	%	%	%	%	%		
Grade	4	48	58	28	9	6	55	43	24	18
	5	28	30	41	47	7	30	31	26	48
	6	19	10	25	21	8	15	27	49	34
	7	5	2	6	24					
Male		50	52	46	41		49	48	55	50
African American		62	61	71	74		57	53	82	75
Child Protection		12	9	22	24		12	17	13	27
Out of Home Placement		5	3	5	0		4	4	2	7
Special Education		9	11	15	26		12	20	21	21
Free/Reduced Lunch		76	85	97	88		85	92	95	93
Limited English Proficiency		26	32	15	9		22	9	8	5

FINDINGS

Findings suggest that ACES participation benefits students on some educational indicators. Frequent participation was associated with increased reading proficiency over time compared to non-ACES students, significantly higher attendance in 2011-2012, and significantly higher district-level enrollment. Although math proficiency and graduation rates were higher for frequent ACES participants than those of their peers, differences were not statistically significant.

Attendance: Students maintained high attendance over time (92% or greater). Frequent ACES participants experienced a net gain of one percentage point in their attendance over time whereas their non-ACES peers experienced a net decrease of two percentage points. Although the pattern of change in attendance over time was not statistically different between the two groups, frequent participants had significantly higher attendance in 2011-2012 (96%) than their non-ACES peers (93%; $t=2.29$, $p=.02$). Neither patterns of change over time nor differences in average attendance in 2011-2012 were statistically significant for moderate participants as compared to infrequent participants.

ACES previously measured satisfactory attendance as 90% attendance or greater. In 2010-2011 (ACES entry year), 64% of all ACES students achieved satisfactory attendance; that proportion increased to 87% in 2011-2012. When satisfactory attendance was examined by participation level, trends were similar to average attendance for all groups. Frequent participants improved their satisfactory attendance from 56% to 74%, while the comparison group experienced a small decline in the proportion with satisfactory attendance (from 78% to 73%). The proportion of students with satisfactory attendance increased for moderate and infrequent participants from 73% to 86% and 68% to 91%, respectively.

Mobility: School mobility may impact educational outcomes, including achievement and attendance. Although trends in school mobility were not statistically different between ACES frequent participants and their non-ACES peers, frequent participants were significantly more mobile (range=0-3 moves each year) than non-ACES students at each time point (see Figure 1). For example, in 2010-2011 one out of every five students experienced a school move (on average); in this same year none of the non-ACES students experienced a school move ($t=4.95$, $p<.001$). During the year of ACES participation, frequent participants' mobility rates were the lowest of all time periods observed. Mobility rates for infrequent and moderate ACES participants were similar to one another. For all ACES students, average mobility

from 2010-2011 to 2011-2012 increased regardless of length of ACES participation. However, students who participated one year had a larger increase in mobility in 2011-2012 than students who participated a second consecutive year.

MCA-II Reading and Math: ACES participants experienced increased proficiency in reading over time (with an additional 8% of frequent, 5% of moderate, and 12% of infrequent participants demonstrating proficiency in 2011-2012 than 2009-2010); proficiency decreased for 7% of non-ACES students over time. Changes in proficiency levels were significantly different for frequent participants versus non-ACES students ($\beta=-0.89, p=.02$; see Figure 2); changes in proficiency levels were not significantly different for moderate versus infrequent participants. Non-ACES students were 41% less likely to experience growth in proficiency in this time period. In 2011-2012 differences in proficiency were non-significant between frequent participants and non-ACES students as well as between moderate and infrequent participants. Differences among ACES students who continued enrollment for two years versus those who participated only one year were non-significant.

Trends in math proficiency over time reveal decreased levels of proficiency across groups (with 19% of non-ACES students, and 13% of frequent, 17% of moderate, and 6% of infrequent participants losing proficiency between 2009-2010 and 2011-2012; see Figure 2). Differences in proficiency in 2011-2012 as well as changes in proficiency over time were non-significant between frequent participants and non-ACES students, or between moderate and infrequent participants. Differences among ACES students who continued enrollment for two years versus those who participated only one year were also non-significant.

9th Grade Enrollment: The proportion of ACES 8th graders maintaining enrollment in Minneapolis and Saint Paul schools for 9th grade was significantly higher (95%) than that of their non-ACES peers (73%) ($\chi^2=4.727, p=.03$). The proportions of infrequent and moderate attendees that maintained enrollment were 84% and 85%, respectively.

Graduation and Dropout: More frequent ACES attendance was associated with higher graduation rates (including on-time graduation); frequent ACES attendees showed slightly higher (though non-significant) on-time graduation rates than their peers (see Table 2). Dropout rates were similar for frequent ACES attendees and their non-ACES peers. However, slightly more than one-fourth of all infrequent ACES attendees have dropped out. Further investigation into the outcomes of the "unknown" students revealed that many of them are still enrolled in Minnesota public schools while a small number have left the state or enrolled in an approved non-public school.

Figure 1. Average Mobility Over Time

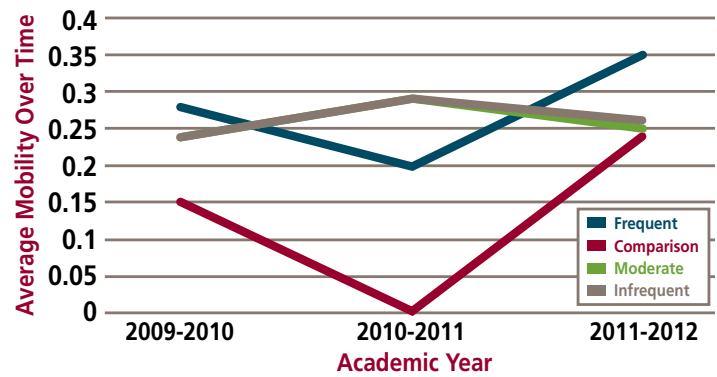


Figure 2. Average MCA-II Reading and Math Proficiency Over Time

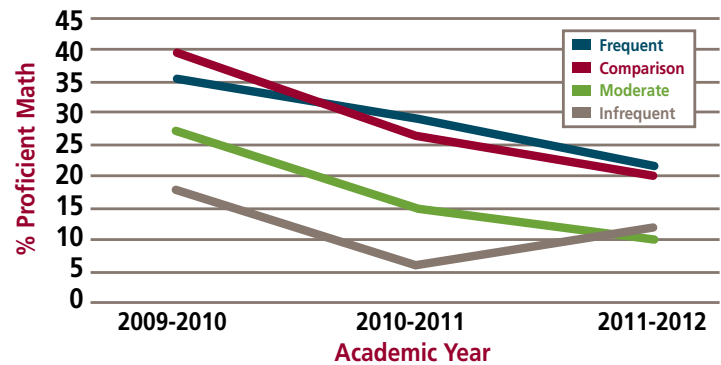
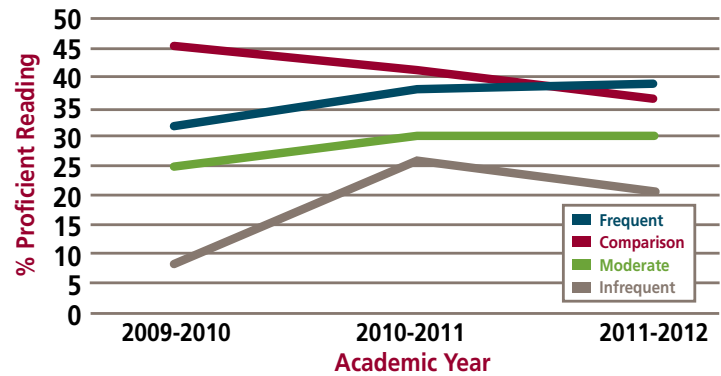


Table 2. Graduation and Dropout

	ACES			
	Comparison	Frequent	Moderate	Infrequent
Graduation (On Time)**	36%	39%	31%	23%
All Graduations	44%	45%	37%	32%
All Dropouts	16%	17%	11%	27%
Continuing or Unknown	40%	37%	52%	41%
N	73	75	87	44

**On Time Graduation not included in N, but used to calculate graduation rate

Conclusion

This evaluation of a local after-school program (the Athletes Committed to Educating Students [ACES] program) sought to better understand the educational outcomes of students at different levels of ACES participation as compared to their non-ACES peers. Despite apparent trends in improving outcomes for frequent participants, results did not show consistent differential relationships over time between frequent ACES participants and their non-ACES peers. Differences in trends were most pronounced in reading proficiency and mobility. Attendance was a positive trend for ACES students, especially given that ACES participants experienced more school moves than their peers.

ACES identified reading skills as a main programming component to support student academic growth and achievement. Positive trends in reading proficiency among all ACES students showed that an academic focus on reading helped students increase proficiency on the reading portion of the Minnesota Comprehensive Assessment (MCA-II). However, increases in math proficiency were not demonstrated. Among ACES students, twice as many frequent participants were proficient in reading and math than infrequent participants, highlighting the importance of participation level.

Graduation rates appeared to be low among all study participants (including ACES participants and their non-ACES peers). Graduation rates ranged from 32-45% across student groups. However, some students may have continued their education in alternative learning programs or completed a GED if they did not complete graduation requirements in public high schools. Given data availability for this study, of the 40% of students who did not graduate (or drop out), approximately 7% left Minnesota public schools for reasons other than a dropout, approximately 16% may still be enrolled in high school as of June 2013, and 13-16% (ACES and non-ACES) remain unknown.

Overall, findings showed that ACES students made gains in educational outcomes despite mixed significant differential relationships. Findings may indicate that programming changes may take longer than one year of participation to establish consistent (and statistically significant) differential relationships between ACES participants and their non-ACES peers. In addition, other program goals not measured by this evaluation may have a stronger impact for participants.

LIMITATIONS

This evaluation was unable to measure outcomes of other stated ACES program goals, which may create social effects in students that were not reflected in educational outcomes. The total proportion of students who will earn a high school diploma remained unknown because GED data was not available, and many continued school enrollment beyond their expected graduation date. In some cases, study sample may have been smaller than hoped.

References

- Chall, J.S., & Jacobs, V.A. (2003). Poor children's fourth-grade slump. *American Educator*, (27)1. Retrieved from <http://www.aft.org/newspubs/periodicals/ae/spring2003/hirschsbcclassic.cfm>
- Child Trends. (2010). Ten ways to promote educational achievement and attainment beyond the classroom. Retrieved from <http://www.childtrends.org/?publications=promoting-educational-achievement-attainment-beyond-the-classroom>
- Mahoney, J.L., Lord, H., & Carryl, E. (2005). An ecological analysis of after-school program participation and the development of academic performance and motivational attributes for disadvantaged children. *Child Development*, July/August, 76(4), 811-825.
- Minneapolis Public Schools Office of Research, Evaluation and Assessment. (2013). Graduation Rate Review: 4-Year On-Time Graduation Rates Overview & District Summary. Retrieved from http://rea.mpls.k12.mn.us/uploads/2013_mps_graduation_rates_final.pdf
- Saint Paul Public Schools Department of Research, Evaluation and Assessment. (2014). MDE 4-Yr Graduation Rate. Retrieved from http://datacenter.spps.org/sites/2259653e-ffb3-45ba-8fd6-04a024ecf7a4/uploads/mde_GradRate_Trend09-13_schools_forDC.pdf

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